

## IASOA Flux Working Group

December 7, 2016

**Attendees:** Sara Crepinsek, Taneil Uttal, Elyn Humphreys, Eugenie Euskirchen, Dave Billesbach, Lori Bruhwiler, Mathias Goeckede, Andrey Grachev, Dave Cook, Allison McComiskey, Alexander Makshtas

### Introduction of group members – role call

*Presentation: Observationally Closing the Arctic Atmosphere-Surface Energy Budget (SEB)* – Subtext 1: Can it be done? Subtext 2: The science of observations, types of flux that contribute to SEB: radiative, latent, sensible, ground/conductive, vegetative, and turbulent fluxes, overview of instruments used to measure these fluxes – radiation trackers, fluxtowers, anemometers, etc., conversions/calibrations/calculations to convert voltages to quantitative measurements, overview of types of fluxes and how they warm/cool to achieve SEB, need additional measurements in snow/canopy soil, larger question: can the SEB ever be closed?, PSD specialists: ground heat flux (Crepinsek working on this for her thesis) – issues with heat capacity and soil conductivity of soil, turbulent flux (Grachev, Konopleva) – issues with continuity of methodology and large scale advection fluxes (eddy covariance method, gradient and bulk method), radiative flux (Cox) – issues with quality control, calibration standardization, rime issues (Crepinsek), vegetative flux (Grachev) – issues with integration with ecosystem, photosynthesis publications, canopy simulation (0.5 % - Eugenie's study), term is smaller than the uncertainty, snow/storage flux (?) – issues with finding better integration with snow physics, snow chemistry as source sink of CO<sub>2</sub> flux, after freeze up still get Methane flux, freeze/melt processes (get paper from Alexander Makshtas)

*Circumpolar Flux Workshop Organizing Committee* – Finalize agenda for Circumpolar Flux Workshop, Pre-meeting homework assignments for four Flux Workshop Topics: what do participants hope to gain from workshop (email ideas to Eugenie), ask Starkweather about past interaction ideas during breakout sessions, also ask Ted Shur during next flux meeting about ideas for group sessions at flux workshop, recommend if know of any early career scientists that would like to attend flux workshop, everyone needs to REGISTER for flux workshop so can get idea of how many participants, also send email to Eugenie if want to present a poster at the workshop

### **Action Items:**

- Register for flux workshop if attending (ALL)
- Email Eugenie if want to present a poster at flux workshop (ALL)
- Email Eugenie of any early career scientists that would like to attend flux workshop (ALL)
- Email Eugenie of pre-meeting topics for homework (ALL)